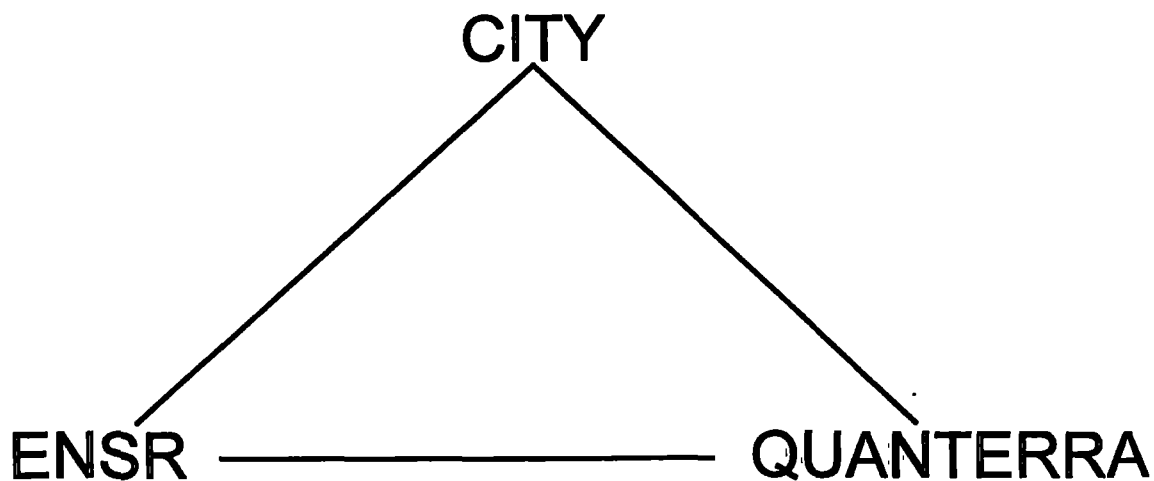




ANNUAL PROGRESS REPORT
FOR 1999

REILLY TAR & CHEMICAL CORP.
N.P.L. SITE
ST. LOUIS PARK, MINNESOTA

SUBMITTED MARCH 15, 2000





Consulting • Engineering • Remediation

March 15, 2000

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**Re: United States of America, et al. vs. Reilly Tar & Chemical
Corporation, et al.
File No. Civ. 4-80-469
Consent Decree – Park K**

Gentlemen:

Enclosed is the 1999 Annual Progress Report submitted pursuant to Park K of the Consent Decree in the above captioned matter. This report is issued by the City in accordance with Section 2(a) of the Reilly/St. Louis Park Agreement (Exhibit B to the Consent Decree).

Any questions regarding this submittal can be directed towards this office.

Sincerely,

William M. Gregg
Project Leader for the
City of St. Louis Park

Enclosure

cc: Scott Anderson
Mike Rardin (w/o enclosures)
Reilly File

**1999 ANNUAL PROGRESS REPORT
ON THE
IMPLEMENTATION OF THE CONSENT DECREE**

**SUBMITTED TO THE

REGIONAL ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V**

**EXECUTIVE DIRECTOR
MINNESOTA POLLUTION CONTROL AGENCY**

**BY

THE CITY OF ST. LOUIS PARK, MINNESOTA**

**PURSUANT TO
CONSENT DECREE - PART K**

UNITED STATES OF AMERICA, ET AL.

VS.

REILLY TAR & CHEMICAL CORPORATION, ET AL.

**UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
CIVIL NO. 4-80-469**

MARCH 15, 2000

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1. INTRODUCTION

The Consent Decree in United States of America, et al. vs. Reilly Tar & Chemical Corporation, et al. (U.S. District Court, Minnesota, Civil No. 4-80-469) was signed by Judge Magnuson on September 3, 1986, and entered by the Court on the following day. The effective date of the Consent Decree is therefore September 4, 1986 (see Part EE of the Consent Decree).

The Consent Decree requires various actions to be taken by Reilly Industries, Inc. (Reilly), the City of St. Louis Park (City), the United States Environmental Protection Agency (USEPA), the Minnesota Pollution Control Agency (MPCA), and/or the Minnesota Department of Health (MDH). These actions are required by the Consent Decree itself, by the Remedial Action Plan (CD-RAP) (Exhibit A to, and an integral and enforceable part of the Consent Decree, per Part F thereof), or by an Agreement between Reilly and the City (Reilly/City Agreement) (Exhibit B to, and an integral and enforceable part of the Consent Decree, per Part Q thereof, as to the rights and responsibilities between Reilly and the City).

This Annual Progress Report (Report) submitted in accordance with the requirements of Part K of the Consent Decree describes actions taken to implement the requirements of the Consent Decree from January 1 through December 31, 1999. This Report also describes activities scheduled for calendar year 2000, as required by Part K. Two other annual reports are required and are submitted by March 15 of each year under separate cover. The Annual Monitoring Report presents all chemical analyses and water level measurements for that calendar year that are not presented in other reports. The second annual report is the Annual Performance Report for granular activated carbon treatment system. This report discusses chemical analyses and pumping requirements for SLP10 or SLP15 and for SLP4.

As an aid to the reader in following the progress of the many activities involved, this Report provides separate descriptions of completed and scheduled activities required by the Consent Decree (Report Sections 2.0 and 3.0, respectively) and by the CD-RAP (Report Sections 4.0 and 5.0, respectively). Within each section, areas of activity are discussed in the order in which they are discussed in the Consent Decree and CD-RAP.

2. COMPLETED CONSENT DECREE ACTIVITIES

Part K of the Consent Decree requires that Reilly submit annual progress reports to the USEPA and MPCA by March 15, which describe actions taken to implement the requirements of the Consent Decree during the previous year and describe activities scheduled for the year in which the report is released. The City, on behalf of Reilly, submitted the 1998 Annual Progress Report on March 15, 1999, pursuant to the requirements of Part K, of the Consent Decree.

Part O of the Consent Decree states that Reilly, the City, the USEPA, or the MPCA may change its designated Project Leader and alternate by notifying the other Parties, in writing, of the change. In a letter dated February 25, 1999, the MPCA notified the other Parties that Paul Bulger and Nile Fellows are the new MPCA project team leaders.

Part Y of the Consent Decree requires Reilly to provide the USEPA and MPCA with current certification of insurance for certain specified coverages. Reilly wrote the USEPA and MPCA on July 7, 1987, to request that the excuse granted to Reilly on October 7, 1986, from meeting certain notification requirements for insurance cancellation be extended to July 1, 1988. The USEPA and MPCA approved this request on September 9, 1987. On March 28, 1991, Reilly submitted certificates of insurance for liability coverage, indicating excess coverage was in place. Reilly submitted information in partial compliance with Part Y and informed the Agencies that reasons necessitating an excuse continued to be valid, thereby causing it to request further extension of the excuse (relating to the language of the insurance certificates). As of December 31, 1999, no response had been received from the Agencies.

Part Z of the Consent Decree currently requires Reilly to deliver to the United States and State of Minnesota by May 31 of each year, a certificate prepared by Reilly's certified public accounting firm which sets forth whether Reilly's consolidated performance is in accord with the requirements established in the Consent Decree. Reilly submitted the required certificate in accordance with Part Z of the Consent Decree.

Reilly has completed a Stipulation and Order to amend Part Z of the Consent Decree.

All parties of the Consent Decree have signed the document, and it was signed by Judge Magnuson on November 5, 1999. Reilly will demonstrate future financial assurance, by May 31 of each year, by certifying that Reilly satisfies the requirements of 40 C.F.R. §264.143(f).

3. SCHEDULED CONSENT DECREE ACTIVITIES

Part P of the Consent Decree addresses the issue of securing access agreements to conduct the various activities contemplated in the CD-RAP. In the past, the City has commenced negotiations with various parties from whom access authorization must be attained based upon the content of Agency correspondence dated May 3, 1989. Said correspondence approved a revision in access agreement language for certain properties owned by the Minneapolis Parks and Recreation Board; however, the Agencies indicated they would review each agreement on a case-by-case basis. Accordingly, individual negotiations will be initiated with each affected property owner whereon the City must perform Consent Decree related activities in 2000 in an effort to secure similar agreements to those which were approved by the Agencies on May 3, 1989. No additional access agreements were made during 1999.

Part Q of the Consent Decree acknowledges the Reilly/City Agreement as Exhibit B to, and an enforceable part of the Consent Decree. Section 2 of the Reilly/City Agreement provides that by September 3, 1990, if necessary to avoid sanitary sewer charges on the discharge from wells W23, the Drift-Platteville Aquifer source control wells and gradient control well, Reilly shall plan, obtain necessary permits for, and construct a treatment facility and piping to allow effluent from the wells to be discharged to a storm sewer. As noted in Section 2 of the 1991 Annual Progress Report, a treatment facility was made operational in 1991, treating water discharged from wells W23, and the Drift-Platteville Aquifer source control wells (W420 and W421). To date, no decision has been made on the disposition of the discharge from Drift-Platteville Aquifer gradient control wells (W422, W434 and W439), or the St. Peter Aquifer gradient control well (W410).

Section 9 of the Reilly/City Agreement provides for the payment by one party of costs incurred by the other party or the sharing by the parties thereto of costs incurred by one party in the implementation of the CD-RAP. Within 30 days of the close of the calendar quarter, in which the costs were incurred, the party incurring the costs shall issue a detailed statement of costs, including supporting documentation, and within 30 days of receipt of such notice, the owing party shall pay to the other its share of the costs. It is anticipated the parties will respond to said submittals in accordance with the provisions stated herein.

Part T of the Consent Decree addresses compliance with all applicable local, state, and federal laws and regulations when implementing the Consent Decree. Among its provisions is the requirement that the USEPA and MPCA approve any facility used for off-site disposal of hazardous substances generated during work undertaken pursuant to the Consent Decree. If either Reilly or the City propose to use a facility in 2000, the Agencies must confirm the status of

the facility before the shipment of hazardous wastes commences.

Part Y of the Consent Decree requires Reilly to provide the USEPA and MPCA with current certification of insurance for certain specified coverages. Appropriate documentation is due in 2000.

Part Z of the Consent Decree currently requires Reilly to deliver to the United States and State of Minnesota by May 31, 2000, a certificate prepared by Reilly's certified public accounting firm which sets forth whether Reilly's consolidated performance is in accord with the new requirements set forth in the recently amended Consent Decree.

4. COMPLETED REMEDIAL ACTION PLAN ACTIVITIES

Progress continued in the implementation of the CD-RAP during 1999. Operation of source and gradient control wells occurred throughout the year, impacting flows in the Prairie du Chien-Jordan Aquifer (W23, SLP4 and SLP10/15), St. Peter Aquifer (W410) and the Drift-Platteville Aquifer (W420, W421, W422, W434, and W439). In addition, monitoring of the Mt. Simon-Hinckley, Prairie du Chien-Jordan, St. Peter, and Drift-Platteville Aquifers was completed. Table 4-1 summarizes the progress made in completing the many activities contemplated in the CD-RAP. Further details on the various CD-RAP activities are provided below.

4.1 CD-RAP Section 3

Section 3.3 of the CD-RAP requires Reilly to submit annual Sampling Plans to the USEPA and MPCA by October 31 of that year for the following year. Section 2(a) of the Reilly/City Agreement provides that the City assume all of Reilly's obligations under Section 3 of the CD-RAP. On November 1, 1999 (the Monday after October 31, 1999), the City submitted the 2000 Sampling Plan. On January 27, 2000, the Agencies indicated the Plan is generally approvable but requested more information regarding the use of a high volume injector as part of the laboratory analytical procedure. The City responded to the Agencies' request, and is preparing an addendum for the 2000 Sampling Plan. The Addendum will be submitted to the Agencies in March 2000.

Section 3.4 of the CD-RAP requires Reilly to submit an Annual Monitoring Report to the USEPA and MPCA containing the results of all monitoring during the previous calendar year. The City submitted the 1998 Annual Report on behalf of Reilly on March 15, 1999. In a letter from the Agencies dated January 6, 2000, the Agencies approved the Annual Monitoring Report for 1998.

4.2 CD-RAP Section 4

The City operated the granular activated carbon (GAC) treatment system in complete compliance with Section 4.2 of the Remedial Action Plan (RAP) during 1999. A summary of the 1999 monthly pumpage is presented on Table 4-2.

Municipal wells SLP10/15 pumped without incident during 1999. The wells are required to pump at a minimum of 10 million gallons per month. SLP10/15 pumped a total of 337.6 million gallons for 1999 or approximately 170% of the CD-RAP required minimum annual pumping rate of 200

TABLE 4-1
Status of Remedial Action Plan Activities - 1999

RAP Section	Item	Activities
3.2./3.3	1999 Annual Sampling Plan	Letter submitted by the City on November 2, 1998, informing the Agencies that sampling in 1999 would follow the 1998 Sampling Plan. In a September 20, 1999, letter, the Agencies approved the plan to sample in 1999 following the 1998 Sampling Plan.
3.2./3.3	2000 Annual Sampling Plan	Plan submitted by the City on November 1, 1999. Agency approval pending.
3.4	1998 Annual Monitoring Report	Report submitted by the City on March 15, 1999. Agency approved report as indicated in a letter dated January 6, 2000.
4.2	Operation of SLP10/15 and GAC System Operation	The City operated the GAC system in compliance with the CD-RAP. Wells pumped the required monthly and yearly volumes.
4.3	GAC System Monitoring	Samples were collected as outlined in the Sampling Plan.
4.3.5	1998 GAC Annual Report	Report submitted by the City on March 15, 1999.
5.1	Mt.-Simon Hinckley Monitoring	Completed as outlined in the Sampling Plan.
6.1.4	W105 Monitoring	Not required to be sampled in 1999. Well is sampled even-numbered years (i.e. 2000, 2002).
7.1.3	Operation of W23	Well W23 was operated in substantial compliance with the CD-RAP.
7.2.7	Operation of SLP4	Operated well SLP4 within the requirements of the RAP.
7.3	Prairie du Chien-Jordan Aquifer Monitoring	Completed as outlined in the Sampling Plan.
7.4.2	Gradient control system modifications in the Prairie du Chien-Jordan Aquifer	The Agencies requested a Focused Feasibility Study to evaluate modifications, in a November 2, 1999, letter. The City clarified the contents of the Focused Feasibility Study in a letter to the Agencies dated December 3, 1999.

TABLE 4-1
Status of Remedial Action Plan Activities - 1999

RAP Section	Item	Activities
		The Focused Feasibility Study was completed and submitted on-schedule on February 14, 2000.
8.1.3	St. Peter Aquifer monitoring	Completed as outlined in Sampling Plan.
8.3	Operation of W410	Well W410 was operated in substantial compliance with the CD-RAP.
9.1.3	Operation/monitoring of Drift-Platteville Aquifer source control wells, W420 and W421	Pumping during 1999 occurred without incident. Quarterly monitoring completed.
9.2.3	Operation/monitoring of Drift-Platteville Aquifer gradient control well W422	Well W422 was operated in substantial compliance with the CD-RAP. Quarterly monitoring completed. The City is preparing a request to cease pumping at wells W422 and W434, based on monitoring results.
9.3.3	Drift-Platteville Aquifer monitoring	Completed as outlined in Sampling Plan.
9.5.1	Operation of W439	Well W410 was operated in substantial compliance with the CD-RAP. Quarterly monitoring completed.
9.6	Drift-Platteville Aquifer monitoring	Completed as outlined in Sampling Plan.
9.7.2	Platteville Aquifer Gradient control Well W434	Pumping during 1999 occurred without incident. Quarterly monitoring completed. The City is preparing a request to cease pumping at wells W422 and W434, based on monitoring results.
11.5.1	Development of the site	No activity occurred in 1999.
12.1.1	Exceedance of advisory levels	In a letter dated April 27, 1999, the City informed the Agencies that the analytical results from Granular Activated Carbon Treatment Plant #1 (GAC-1) have exceeded the Drinking Water Criteria. The City indicated they would immediately resample and change the GAC in lieu of additional sampling requirements. By letter to the Agencies, the City indicated the resampling results of GAC-1 confirmed previous results and the GAC was changed out on May 17, 1999. The City resumed quarterly sampling without incident.

TABLE 4-2**SLP 10/15 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	37,782,000	846.4
February	33,513,000	831.2
March	32,456,000	727.1
April	30,487,000	705.7
May	34,823,000	780.1
June	33,677,000	779.6
July	39,999,000	896.0
August	35,599,000	797.5
September	28,959,000	670.3
October	30,433,000	681.7
November	20,455,000	473.5
December	10,900,000	244.2
TOTAL	369,083,000	702.8

million gallons per year.

Insofar as Section 4.3.5 of the CD-RAP requires that an annual report of the results of all GAC system monitoring completed in 1999 be reported by March 15, 2000, the City will forward a copy of said report to the USEPA, MPCA, MDH, and Reilly under separate cover by the required date.

4.3 CD-RAP Section 5

Section 5.1 of the CD-RAP requires Reilly to monitor the City's Mt. Simon-Hinckley Aquifer wells on an annual basis. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. The City completed the Mt. Simon-Hinckley Aquifer monitoring in compliance with Section 5.1 of the CD-RAP, and the results have been presented in an annual report issued in accordance with Section 3.4 of the CD-RAP.

4.4 CD-RAP Section 6

Section 6.1.3 of the CD-RAP requires Reilly to pump well W105 at a monthly average rate of 25 gallons per minute (gpm) until such time as the well's discharge is in compliance with cessation criteria contained in Section 6.1.5. On December 4, 1991, the Agencies authorized the City to discontinue the pumping of well W105, and on December 13, 1991, the well was shut down.

Section 6.1.4 of the CD-RAP requires Reilly to monitor well W105 on an every other year basis (i.e. even numbered years). Section 2(a) of the Reilly/Tar Agreement provides that the City complete this task on behalf of Reilly. The City completed the monitoring in accordance with Section 6.1.4 of the CD-RAP in 1998, and will do so again in 2000.

4.5 CD-RAP Section 7

Section 7.1.3 of the CD-RAP requires Reilly to pump W23 at a monthly average rate of 50 gpm. Section 2(a) of the Reilly/City Agreement provides that the City operate W23 beginning the day pumping is started. A summary of the 1999 monthly pumpage is presented on Table 4-3. The monthly average flow rate ranged from 49.5 gpm to 51.8 gpm with a monthly average of 51 gpm.

Section 7.2.7 of the CD-RAP requires Reilly to pump SLP4 at its capacity (900 gpm or as near as practicable) during the months of January through April and October through December and 300 gpm from May through September during each calendar year. Section 2(a) of the Reilly/City Agreement provides that the City assume this obligation for Reilly. A summary of

TABLE 4-3**W23 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	2,223,640	49.8
February	2,070,150	51.3
March	2,311,670	51.8
April	2,238,700	51.8
May	2,244,750	50.3
June	2,214,370	51.3
July	2,308,790	51.7
August	2,306,980	51.7
September	2,245,330	52.0
October	2,210,920	49.5
November	2,236,410	51.8
December	2,279,200	51.1
TOTAL	26,890,910	51.2

the 1999 monthly pumpage is presented on Table 4-4. The City achieved the monthly average pumping rate requirements. The City pumped SLP4 at an average rate of 977.2 gpm during the months of January through April and October through December and 1,049.1 gpm from May through September.

Section 7.3 of the CD-RAP requires Reilly to monitor the Prairie du Chien-Jordan Aquifer as specified in Section 3 of the CD-RAP. Section 2(a) of the Reilly/City Agreement provides that the City will assume this obligation for Reilly. The City in compliance with Sections 3 and 7.3 of the CD-RAP completed monitoring of the aquifer, and information relative to the monitoring can be found in the 1999 Annual Report submitted pursuant to Section 3.4 of the CD-RAP.

Section 7.4.2 of the CD-RAP authorizes the Agencies to assess the effect of the diminution of the pump stress placed on the Prairie du Chien-Jordan Aquifer (PCJ Aquifer) if the pumping rate of W48 is changed.

In 1995, ENSR submitted a plan for gradient control system modification for the PCJ Aquifer, which was approved by the Agencies on October 27, 1995. This approval letter indicated that a mutually acceptable modeling tool developed by Hennepin County Conservation District would be used to further evaluate groundwater flow in the PCJ Aquifer. Based upon the results from the modeling work, the Agencies indicated in a May 4, 1998, letter the need for additional capture in the PCJ Aquifer southeast of the Reilly Site. In the May 4, 1998, letter, the Agencies requested that a feasibility study be completed.

In a May 19, 1998, letter from the City to the Agencies, the City indicated that they would complete the feasibility study within a 90-day time frame. However, to effectively evaluate the three scenarios, an agreement on alternate water quality criteria in the PCJ Aquifer should be made. In an Agency letter dated November 23, 1998, the City was authorized to postpone initiating the FFS until the water quality criteria were revised.

On February 19, 1999, during a project status meeting, the City informed the MPCA they are no longer requesting revisions to the CD-RAP water quality compliance criteria for the drinking water aquifers and accordingly the revision of water quality criteria is no longer postponing preparing the FFS. In a letter dated November 2, 1999, the Agencies requested that the City prepare the FFS within 90 days (February 14, 2000). The FFS was submitted by the City on February 14, 2000.

TABLE 4-4**SLP4 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	44,176,000	989.6
February	39,539,000	980.6
March	41,856,000	937.6
April	43,641,000	1010.2
May	46,665,000	1045.4
June	47,107,000	1090.4
July	46,442,000	1040.4
August	47,341,000	1060.5
September	43,584,000	1008.9
October	44,411,000	994.9
November	40,442,000	936.2
December	44,261,000	991.5
TOTAL	529,465,000	1007.2

4.6 CD-RAP Section 8

Section 8.3 of the CD-RAP authorizes the USEPA and MPCA to require Reilly to install and operate a gradient control well system for the purpose of preventing the further spread of groundwater exceeding any of the Drinking Water Criteria defined in CD-RAP Section 2.2 in the St. Peter Aquifer. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly.

In response to April 1, 1991, correspondence from the Agencies on the issue, the City placed W410 in service on May 30, 1991. A summary of the 1999 pumpages is presented in Table 4-5.

Table 4-5 indicates well W410 was pumped in substantial compliance with the CD-RAP, and the yearly average pumping rate for well W410 was approximately 66 gpm.

Monitoring of St. Peter Aquifer monitor wells occurred in accordance with the provisions of the 1998 Sampling Plan. These data and a report on the effectiveness of well W410 as a gradient control well can be found in the 1999 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

4.7 CD-RAP Section 9

Section 9.1.3 of the CD-RAP requires Reilly to operate the Drift-Platteville Aquifer source control wells at a monthly rate of 25 gpm and monitor them on a quarterly basis. Section 2(a) of the Reilly/City Agreement provides that the City operate the wells beginning the day pumping is started and monitor them as required. Accordingly, the City has operated the wells and has performed necessary periodic inspections as outlined in a plan approved under Section 9.1.1 of the CD-RAP.

Since 1989, the pumping rates at wells W420 and W421 were increased to the maximum extent practicable to achieve the greatest degree of source control. A summary of the 1999 monthly pumpages for wells W420 and W421 are presented in Tables 4-6 and 4-7, respectively. Wells W420 and W421 maintained average pumping rates of 34.9 and 29.1 gpm, respectively.

Monitoring of the Drift-Platteville Aquifer source control wells occurred on a quarterly basis pursuant to the requirements of Sections 3.2 and 9.1.3 of the CD-RAP. A report of the results can be found in the 1999 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

TABLE 4-5**W410 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	3,049,320	68.3
February	2,776,420	68.9
March	2,990,880	67.0
April	1,732,360	40.1
May	2,929,540	65.6
June	2,910,540	67.4
July	3,086,320	69.1
August	3,269,190	73.2
September	3,047,290	70.5
October	3,077,780	68.9
November	2,939,640	68.0
December	2,847,600	63.8
TOTAL	34,656,880	65.9

TABLE 4-6**W420 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	1,771,260	39.7
February	1,694,660	42.0
March	1,849,880	41.4
April	1,685,720	39.0
May	1,442,620	32.3
June	1,290,380	29.9
July	1,305,140	29.2
August	1,317,460	29.5
September	1,244,400	28.8
October	1,299,500	29.1
November	1,719,560	39.8
December	1,685,560	37.8
TOTAL	18,306,140	34.9

TABLE 4-7**W421 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	1,277,600	28.6
February	1,172,140	29.1
March	1,317,650	29.5
April	1,287,790	29.8
May	1,335,500	29.9
June	1,289,580	29.9
July	1,313,270	29.4
August	1,313,380	29.4
September	1,268,480	29.4
October	1,224,450	27.4
November	1,242,910	28.8
December	1,263,210	28.3
TOTAL	15,305,960	29.1

Section 9.2.3 of the CD-RAP requires Reilly to operate the Drift Aquifer gradient control well (W422) at a monthly rate of 50 gpm and monitor the well on a quarterly basis. Section 2(a) of the Reilly/City Agreement provides that the City operate the well beginning the day pumping is started and monitor it as required. Accordingly, the City has operated the well and has performed necessary periodic inspections as outlined in a plan approved under Section 9.2.1 of the CD-RAP.

A summary of the 1999 pumpage of the Drift Aquifer gradient control well is presented in Table 4-8. The City maintained a monthly average pumping rate of 58.7 gpm for well W422.

Monitoring of the Drift Aquifer Gradient Control well occurred on a quarterly basis pursuant to the requirements of Sections 3.3 and 9.2.3 of the CD-RAP. A report of the results can be found in the 1999 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

In accordance with CD-RAP, Sections 9.2.3 and 9.5.1, the City began pumping well W439 (the Northern Area Drift Aquifer Gradient Control well) at 50 gpm in January 1996. A summary of the 1999 pumpage of the Northern Area Drift Aquifer Gradient Control well is presented in Table 4-9. Well W439 pumped at a monthly average rate of 51 gpm.

Monitoring of the Northern Area Drift Aquifer Gradient Control well occurred on a quarterly basis pursuant to the requirements of Sections 3.2 and 9.2.3 of the CD-RAP. A report of the results can be found in the 1999 Annual Report issued pursuant to Section 3.4 of the CD-RAP.

In accordance with CD-RAP, Section 9.7.2, the City began pumping well W434 on June 10, 1997. Monitoring of well W434 was completed in accordance with the 1999 Sampling Plan. The City maintained a monthly average pumping rate of 31.8 for well W434. A summary of 1999 pumpage at well W434 (Platteville Aquifer Gradient Control Well) is presented in Table 4-10.

In accordance with CD-RAP, Sections 9.2.4 and 9.7.2, the City submitted a letter, dated September 28, 1999, to the Agencies proposing numeric cessation criteria for the Drift Aquifer gradient control well W422 and the Platteville Aquifer gradient control well W434. On October 29, 1999, the Agencies requested a 30-day extension to respond to the City's September 28, 1999, letter.

In a letter dated December 6, 1999, the Agencies indicated that they were unable to approve the proposed cessation criteria for W422 and W434 based upon the information provided in the September 28, 1999, request. The Agencies indicated that to evaluate cessation criteria and associated request to cease pumping, it is necessary to prepare a submittal incorporating the following components:

TABLE 4-8

W422 1999 Pumpages

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	476,840	10.7
February	2,712,020	67.3
March	2,975,240	66.6
April	2,922,710	67.7
May	2,903,230	65.0
June	280,640	6.5
July	3,053,550	68.4
August	3,274,970	73.4
September	3,113,000	72.1
October	3,275,960	73.4
November	3,025,990	70.0
December	2,840,670	63.6
TOTAL	30,854,820	58.7

TABLE 4-9**W439 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	2,452,550	54.9
February	2,264,380	56.2
March	2,431,060	54.5
April	2,356,010	54.5
May	2,344,170	52.5
June	2,444,450	56.6
July	1,211,660	27.1
August	1,448,850	32.5
September	2,448,810	56.7
October	2,512,170	56.3
November	2,392,240	55.4
December	2,452,060	54.9
TOTAL	26,758,410	51.0

TABLE 4-10**W434 1999 Pumpages**

Month	Total Gallons Pumped	Monthly Average Flow Rate Gallons Per Minute
January	1,461,600	32.7
February	974,680	24.2
March	1,448,160	32.4
April	1,166,480	27.0
May	1,526,450	34.2
June	1,156,740	26.8
July	1,462,540	32.8
August	2,026,890	45.4
September	1,428,770	33.1
October	1,357,460	30.4
November	1,412,950	32.7
December	1,360,920	30.5
TOTAL	16,783,640	31.8

- Cessation concentrations
- Compliance with gradient control objective
- Assessment of contaminant spreading
- Criteria to resume gradient control

The City is expecting to respond to the Agencies December 6, 1999, letter in 2000.

4.8 CD-RAP Section 10

Section 10.1.1 and 10.2.1 of the CD-RAP requires Reilly to submit to the USEPA, MPCA and MDH a plan for investigating certain multi-aquifer wells that may be adversely affecting the Mt. Simon-Hinckley, Ironton-Galesville, Prairie du Chien-Jordan and St. Peter Aquifers.

On July 6, 1995, the MPCA issued a letter to the City and Reilly, regarding review of the report for Leaking Deep Multi-Aquifer Wells and St. Peter Aquifer Multi-Aquifer Wells. In these reports, the City stated that no further St. Peter and Deep Multi-Aquifer wells are believed to exist in the study area that require abandonment. The Agencies' July 6, 1995, letter approved both of these reports. No further work is required at this time.

4.9 CD-RAP Section 11

Section 11.5.1 of the CD-RAP requires the City to prepare a plan, which addresses, among other things, actions to place an adequate soil and vegetative cover as needed to prevent soil erosion on city parks on the Site. The City performed routine maintenance in 1999.

4.10 CD-RAP Section 12

The Utility Superintendent has the responsibility to review all data upon receipt from laboratory and notify the Project Leader and Agencies of all exceedances of the Drinking Water Criteria in any municipal well, as outlined in Section 12.1.1 of the CD-RAP. In a letter dated April 27, 1999, the City informed the Agencies that the analytical results from Granular Activated Carbon Treatment Plant #1 (GAC-1) have exceeded the Drinking Water Criteria. The City indicated they would immediately resample and change the GAC in lieu of the extended sampling requirements. In a City letter to the Agencies, the City indicated the resampling results of GAC-1 confirmed previous results and the GAC was changed out on May 17, 1999. The City indicated they would resume quarterly sampling.

5. SCHEDULED REMEDIAL ACTION PLAN ACTIVITIES

Table 5-1 summarizes the expected schedule for CD-RAP activities during 2000. Many of the schedule dates cannot be established definitely because they depend on Agency review, inspection, and approval. Groundwater monitoring is an essential ongoing task.

TABLE 5-1

Expected Remedial Action Plan Activities - 2000

RAP Section	Item	Expected Timetable
3.3	Sampling Plan for 2000	Agency approval due
3.3	Sampling Plan for 2001	City to submit plan October 31, 2000
3.4	1999 Annual Monitoring Report	City to submit report March 15, 2000
4.2	Operation and Maintenance of the GAC System at Wells SLP10 and 15	Ongoing
4.3	GAC Plant Monitoring	Continued monitoring in accordance with the RAP
4.3.5	1999 GAC Annual Report	City to submit report March 15, 2000
5.1	Mt. Simon-Hinckley Aquifer Monitoring	Refer to 2000 Sampling Plan
6.1.4	W105 Monitoring	Will be sampled in 2000 and every even numbered year
7.1.3	Operation of W23	Ongoing
7.2.7	SLP4 Operation	Ongoing
7.3	Prairie du Chien-Jordan Aquifer Monitoring	Refer to 2000 Sampling Plan
7.4.2	Feasibility study on gradient control modification in the PCJ Aquifer. Remedy selection and implementation.	A Focused Feasibility Study was submitted to the Agencies on February 14, 2000
8.1.3	St. Peter Aquifer Monitoring	Refer to 2000 Sampling Plan
8.3	St. Peter Aquifer Remedial Action Gradient Control Well Operation - W410	Ongoing
9.1.3	Operation and monitoring Drift-Platteville Aquifer Source Control Wells, W420 and W421	Refer to 2000 Sampling Plan
9.2.3	Operation and monitoring Drift-Platteville Aquifer Gradient Control Well W422	Refer to 2000 Sampling Plan

TABLE 5-1**Expected Remedial Action Plan Activities - 2000**

RAP Section	Item	Expected Timetable
9.3.3	Drift-Platteville Aquifer Monitoring	Refer to 2000 Sampling Plan
9.5.1	Operation and monitoring of Drift Aquifer Gradient Control Well - W439	Ongoing
9.6	Drift-Platteville Aquifer Monitoring	Refer to 2000 Sampling Plan
9.7.2	Operation and monitoring Platteville Aquifer Gradient Control Well -W434	Ongoing
11.5	Development Plan and Site Maintenance	Ongoing
12.1	Contingent Monitoring	Ongoing, if necessary -